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Nitrations of halogen derivatives of pyridine.
E. PLATZ, A. SCHOKROWSKA, and D. TROJKA (Recs. Chem., 1933, 13, 210-216).—KNO₃ in conc. HNO₃ added to 3-halopyridines in 10% excess at 270° yields 3-chloro-, m.p. 68°, 3-bromo-, m.p. 110°, and 3-iodo-5-nitropyridine, m.p. 196°. The orientation of these compounds is determined by reduction to NH₂-compounds, of which 3-iodo-5-aminopyridine, m.p. 70° (lit., m.p. 253°), is new. Under similar conditions of nitration NO₂-derivatives of 2- and 4-halopyridines are not obtained.
E. T.

ASML 11.4 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200021-6

Direct chlorination of pyridine. Z. Rodewald and E. Platck. *Roczniki Chem.* 18, 39-42 in German 43, 1968.
-Chlorination of pyridine by a method analogous to Hoffmann-Blan's bromination method gives 3,5-dichloropyridine and 3-chloropyridine. M. Wondolowski

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001341200021-6

Constitution of sulfonation products of 3-aminopyridine and 3-hydroxypyridine. B. Flazek. *Rozprawy Chem.* 17, 97-100 (1937) (in German 100); cf. C. A. 31, 1808^h.

Sulfonation of 3-aminopyridine as well as 3-hydroxypyridine occurs in position 2 (ortho). By the oxidation of 2-mercapto-5-nitropyridine with KMnO_4 , there was obtained the K salt of 2-sulfo-5-nitropyridine, which was reduced with SnCl_2 to 2-sulfo-5-aminopyridine. This is different from that obtained by sulfonation of 3-aminopyridine, which was proved to be 2-sulfo-3-aminopyridine. By sulfonation of 3-hydroxypyridine, 2-sulfo-3-hydroxypyridine was obtained. M. Wojciechowski.

ASAC 34.4 METALLURGICAL LITERATURE CLASSIFICATION

3-Hydroxypyridine. II. Nitration, iodination, 2,3-di-hydroxypyridine. R. Plazek and Z. Rodewald. *Russkii Khim. 16, 502* 8 (in German 500) (1930); cf. C. A. 31, 1808¹.—By the nitration of 3-hydroxypyridine (I) in concd. H_2SO_4 , 2-nitro-3-hydroxypyridine (II) is formed. By reduction of II, the aminohydroxy deriv. is obtained, which condenses with picryl chloride, forming 2,3-pyridyl-2,4'-dinitrobenzoxazine. By the diazotization of amino-hydroxypyridine, dihydroxypyridine is formed, which is identical with the product obtained by Kudernatsch by melting 3-hydroxypyridine with alkali. The authors have proved that this compd. is 2-amino-3-hydroxypyridine. By iodination of 3-hydroxypyridine, iodo-3-hydroxypyridine (III) was obtained. By heating III in a sealed tube with aq. NH_3 , 2-amino-3-hydroxypyridine is formed,

thus proving that +++ is 2-iodo-3 hydroxypyridine. W. Wojciechowski

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

Pyridine derivatives. Z. Rodewald and E. Plazek. *Roczniki Chem.* 16, 444-50(1936).—Pyridine-HCl and ICl at 250° for 7 hrs. gave *iodo-2-pyridylpyridine*, m. 209°, sol. in H₂O and hot EtOH, insol. in cold EtOH and PhH; picrate, long yellow needles, m. 136°. The 1 compd. with NH₃ forms 2 aminopyridine, white plates, m. 57°; picrate, m. 216°. 2-Iodopyridine with pyridine-HCl also gave *iodo-2-pyridylpyridine* and hence they detd. that the primary product in the 1st reaction is 2-iodopyridine which then adds on to pyridine. J. Z.

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM SUPP-BLUES

Ca

Pyridines. I. A study of the amination and sulfonation of 3-hydroxypyridine. E. Plazek. *Roczniki Chem.* 16, 403-5(1936).—Five g. 3-hydroxypyridine (I) and 6 g. NaNH₂ in MeOH and *p*-cymene, resp., when heated at 210° for 4 hrs. gave 2,6-diaminopyridine, m. 121° (from PhH), a reduction of the HO group having taken place. A (10 g.) with 50 g. of 100% H₂SO₄ and a vanadyl sulfate catalyst formed 3-hydroxypyridine-2(6)-sulfonic acid, m. 302°, sol. in H₂O but practically insol. in org. solvents. The structure of the latter was detd. by diazotization of 3-aminopyridine-2(6)-sulfonic acid. John Zemba

ASB-ILA METALLURGICAL LITERATURE CLASSIFICATION

100

Aromatic halides. A study of the reaction rates of aromatic halides with ammonia and aliphatic amines. A. Marcinkow and E. Plazek. *Roczniki Chem.* 16, 305-402 (1936).—Dissocn. consts. ($K \times 10^4$) were detd. for the following: NH_3 1.4, MeNH_2 5, Me_2NH 7.4, iso-BuNH_2 3.1, $(\text{iso-Bu})_2\text{NH}$ 4.8, iso-AmNH_2 5.10, $(\text{iso-Am})_2\text{NH}$ 9.0. The lower aliphatic amines react regularly in accordance with their dissocn. const. but this regularity is lacking among the higher amines where unexpected yields are a rule. John Zembala

ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PAGES AND PROPERTIES INDEX																			
BC 3-Aminopyridine. III. Iodination. Z. RONDWALD and E. PÄTZER (Rec. Chem., 1936, 16, 130—135).—3-Aminopyridine (I) and ICl in fuming HCl yield an additive compound, of variable composition, which, when boiled with H₂O, gives 2:6-di-iodo-3-aminopyridine (II), m.p. 153° (3-N-Ac derivative, m.p. 199—201°), also obtained when 3-aminopicolinic acid is taken in place of (I). (II) in EtOH-H₂SO₄ and NaNO₂ afford 2:6-di-iodopyridine, m.p. 130—145°, together with some 2:6-di-iodo-3-ethoxypyridine, m.p. 96—98°. 3-Acetamidopyridine (III) and ICl in AcOH afford an additive compound, m.p. 163°, from which (III) or 3-aminopyridine (IV) is obtained by the action of acids or alkalis. The hydrochloride of (IV) and ICl at 200° yield dichloro-3-aminopyridine, m.p. 118°. R. T.																			
ASACSLA METALLURGICAL LITERATURE CLASSIFICATION FROM (SYNTHESIS) TO (SYNTHESIS) RECORD MAP ONLY (CL) COLLECTION RESEARCH ONLY (CL)																			

COMMON ELEMENTS		PROCESSES AND PROPERTIES INDEX	
<i>co</i> Synthesis of some alkaline derivatives of mandelic and tropic acids. E. Plazek and Z. Rodewald. <i>Koczniki Chem.</i> 15, 481 (1935). Five g. $\text{PhCH}(\text{OEt})\text{COCl}$ (I) and 3.4 g. tropine in anhyd. Et_2O are mixed; the pptd. tropine-HCl is filtered off and the filtrate after removal of Et_2O and purifying by distn. under reduced pressure yields the pure ester (II) b.p. 169-71°; picrate of II, m. 216-17°; picrolonate, yellow, m. 155-6°. The Pr ester (III) prepd. from $\text{PhCH}(\text{OPr})\text{COCl}$ and tropine as for II, b.p. 170-2°; picrate of III, m. 206°; picrolonate, m. 164°. 8.5 g. I in 80 cc. anhyd. Et_2O and 4 g. $\text{Me}_2\text{NCH}_2\text{CH}_2\text{OH}$ (IV) in 40 cc. abs. Et_2O are mixed, set aside for 0.5 hr. and the Et_2O removed; the product, dissolved in a small amt. of H_2O, made alk. with K_2CO_3 and extd. with Et_2O, is distd. under reduced pressure after removal of the Et_2O. The resulting ester (V) b.p. 108-10°; the picrolonate of the methiodide of V, bright yellow, m. 139°. The Pr analog (VI) of V, b.p. 110-12°; picrate of the methiodide of VI, m. 162°. Esters of <i>O</i>-ethyl tropic and <i>O</i>-propyl tropic acids with IV are obtained in a manner analogous to that for the above alkalines. These latter tropic esters do not yield salts characterizing the compds. C. T. Ichnowski		1ST AND 2ND ORDERS	
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION		1ST AND 2ND ORDERS	

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		1ST AND 4TH ORDERS	
3 Aminopyridine II (Methylated derivatives, acetylaminopyridine, formylaminopyridine) E. Plazek, A. Marcinkow and Ch. Stammer. <i>Roczniki Chem.</i> 15, 365-76 (in German 376-7) (1935); cf. <i>C. A.</i> 29, 2535^a. The authors found that all derivs. of 3-aminopyridine are chemically more inactive than those of 2-aminopyridine. The following compds. were prepd.: 3-Methylaminopyridine, obtained in 4.5 g. yield by heating in a sealed tube to 125-135° for 20 hrs. 10 g. 3-bromopyridine and 25 cc. 40% aq. MeNH₂ with addn. of 1 g. CuSO₄ as catalyst. The product was extd. with ether and distd. at 118-120° under 12 mm. pressure. 3-Acetylmethylaminopyridine, obtained in 9 g. yield by boiling 1 hr. 8 g. amine and 11 g. Ac₂O. The product bp 145°; when crystd. from petr. ether, it m. 64°. 2,6-Dibromo-3-methylaminopyridine, obtained in 4.6 g. yield by adding to 1.96 g. amine in 5 g. AcOH 6.1 g. Br in 5 cc. AcOH; crystd. from EtOH-H₂O, it m. 60°. 3-Methylnitrosoamine, obtained in 4 g. yield by diazotization of 5 g. amine, bp 135°. 3-Pyridylmethylhydrazine, obtained by the reduction of the nitroso compd. with Zn and AcOH, bp 191°. 3-Methylnitroaminopyridine, obtained in 2.5 g. yield by adding at 0° to 4.5 g. amine in 10 cc. concd. H₂SO₄ a mixt. of 3 cc. HNO₃ (d. 1.52) and 5 cc. concd. H₂SO₄, m. 54-5°, bp 124-5°. 2-Nitro-3-methylaminopyridine, obtained in 2 g. yield by introducing slowly 5 g. 3-methylnitroamine into 25 cc. concd. H₂SO₄ at 0-5°, m. 110°. 3-Methylamino-2-aminopyridine, obtained by reduction of the 2-nitro compd. with SnCl₂ or by amidation of 3-methylaminopyridine with NaNH₂, m. 124°. 6-Amino-3-methylaminopyridine, obtained by heating at 110-15° for 20 hrs. 6 g. 3-bromo-6-aminopyridine with 15 cc. of 40% aq. MeNH₂ and 0.5 g. CuSO₄ as catalyst, m. 70°. Bromination of 3-dimethylaminopyridine gives 2,6-dibromodimethylaminopyridine, bp. 113-15°, and bromo-3-dimethylaminopyridine, m. 64-6°. Formylaminopyridine obtained by boiling for 4 hrs. 5 g. 3-aminopyridine and 10 cc. HCO₂H, bp 200° under 25 mm. pressure, m. 80°. There was also obtained 3-acetylaminopyridine nitrate, m. 165°. M. Wojciechowski					
ASH-15-A METALLURGICAL LITERATURE CLASSIFICATION					

BC

2-3

Syntheses of alkalines derived from O-phenyl-lactic and -mandelic acid. E. PLANK, Z. RODEWALD, and D. KRYVANIUK (Rosc. Chem., 1935, 15, 360-364).—O-Phenylmandelic chloride, b.p. 135°/0.6 mm., yields the tropp ester, b.p. 206°/1 mm. (picrate, m.p. 171°; picrolonate, m.p. 187°), with tropine, and β -dimethylaminoethyl O-phenylmandelate, b.p. 148—150°/0.2 mm. (picrolonate, m.p. 141—142°), with $\text{NEt}_3 \cdot \text{CH}_3\text{CH}_2\text{OH}$. KOPh and $\text{CHMeBr} \cdot \text{CO}_2\text{Me}$ (2 hr.; 100°), followed by hydrolysis of the product with EtOH-KOH, yield O-phenyl-lactic acid (I), m.p. 114°, the chloride, b.p. 115°/30 mm., of which affords the tropp, b.p. 140—150°/0.6 mm. (picrate, m.p. 175°; picrolonate, m.p. 200—202°), and β -dimethylaminoethyl esters of (I), m.p. 75° (picrate, m.p. 113°; picrolonate, m.p. 148°). R. T.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

10

ca

Synthesis of "alkeline" derived from α -alkoxypropionic acid. Z. Rodewald and E. Plazek. *Roczniki Chem.* 15, 81 (1935). $\text{CH}_3\text{CH}(\text{CO}_2\text{Me})_2$ and NaOMe in MeOH are boiled for 3 hrs., NaOH is added, the soln. is heated for a further 30 min., and $\text{MeOCH}_2\text{CH}(\text{CO}_2\text{H})_2$ is extd. from the product. The corresponding *Et* (II), bp 90° (chloride, bp $54-8^\circ$), and *Pr* (III) ethers, bp 105° (chloride, bp 68°), are prepd. analogously. The *tropyl* ester of I, bp 100° (picrate, m. 187°); *picrolonate*, m. 237° , of II, bp $98-100^\circ$ (picrate, m. $182-3^\circ$; *picrolonate*, m. 191°); *methiodide*, m. 255° (decompos.), and of III, bp 115° (picrate, m. 158° ; *picrolonate*, m. 175°), are obtained by passing dry HCl through a fixed mixt. of the tropine and the appropriate acid at 110° (3 hrs.). The tropine, bp 40° , of I and $\text{Me}_3\text{NCH}_2\text{CH}_2\text{OH}$ in Et_2O afford *N*-dimethylaminoethyl α -methoxypropionate, bp 80° (picrate of methiodide, m. 64°), the corresponding esters of II, bp $95-6^\circ$, and of III, bp $112-15^\circ$, are prepd. similarly. B. C. A.

ASH S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

22

PROCESSES AND PROPERTIES INDEX

A-3

Phospho-pyridine compounds. E. PLATEK and Z. SASTEK (Rocz. Chem., 1934, 14, 1198—1201).— 2-Dimethylaminopyridine (I) and PCl_5 are heated at 100° for 8 hr., excess of PCl_5 is distilled off, aq. NaOH added to an alkaline reaction, excess of (I) removed by Et_2O extraction, the aq. solution evaporated, the residue dissolved in EtOH , and 2-dimethylamino-pyridine-5(1)-phosphinous acid (II), m.p. $250\text{--}252^\circ$ (decomp.), prepared from the Na salt crystallising from the EtOH solution. The analogous phosphinic acid, decomp. at $> 300^\circ$, is obtained by oxidising (II) with $\text{EtOH-H}_2\text{Cl}_2$. R. T.

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

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CO

3-Aminopyridine. I. Bromination, sulfonation and methylation. E. Plazek and A. Marcinkow. *Roczniki Chem.* 14, 326-34 (1934).—3-Aminopyridine (I) affords 2,6-di-, m. 142°, and 2,4,6-tri-bromo-3-aminopyridine, m. 115°, with, resp., 2 and 3 parts of Br in MeOH; the Br₂ and Br₂ derivs. are not obtained by direct bromination. 3-Aminopyridine-2(6*l*)-sulfonic acid (II), m. 281°, is obtained from ClSO₃H and I, but not by direct sulfonation with H₂SO₄. II yields the internal diazonium salt, exploding on heating, on diazotization with AmONO, and the salt is converted into pyridine-2-sulfonic acid, m. 240°, by heating with HCO₂H and Cu. 3-Dimethylaminopyridine, bp 105.0° (purale, m. 178-80°; pure), is prepd by tonate, m. 225-6°, methiodide, m. 101-2°, is prepd by passing MeOH and I vapors over Al₂O₃ at 380-420°.

B. C. A.

ASH S.A. METALLURGICAL LITERATURE CLASSIFICATION

PROCEDURES AND PROPERTIES INDEX																									
BC																									
A-4																									
Arsenic derivatives of indazole. E. PLAZEK and E. NEYMANOWNA (Rocz. Chem., 1932, 12, 706-714).—Indazole-6-arsinic acid, m.p. 206–208°, produced, together with other unidentified products, by adding Na_2AsO_4 to diazotised 6-aminoindazole, yields indazole-6-arsinoride (I), decomp. > 170°, on treatment with SO_2, bis-6-arsenoindazole, decomp. > 240°, on reduction, and indazole-6-arsenious disulphide on treatment with H_2S; indazole-6-thioarsinoride, m.p. 170°, is obtained from H_2S and (I). Indazole-7-, m.p. 222–225°, -5-, solid at 340°, and -4-arsinic acid, m.p. 242°, 7-, decomp. 170°, 5-, m.p. 286°, and 4-arsenoindazole oxide, decomp. 250°, bis-7-, m.p. 216°, and bis-5-arsenoindazole, unstable, are prepared analogously to the above compounds. Indazole-6- and -4-arsinic acids are much stronger acids than are the -7- and -5-compounds. R. T.																									
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CA 10

101 AND 200 COLUMNS

SYNTHESIS AND CHARACTERIZATION

Synthesis of alkaline derivatives of methoxy acids. J. VON BRAUN AND E. PLAZER
Rozanski Chem. 11, 890-6(896 in German) (1931). *o*-Methylmandelyl chloride (I),
 prepd. from *o*-methylmandelic acid and SOCl_2 , condensed with tropine yields *methyl*
homotropine, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p 144-4° (dihydrate m. 50-5°; picrate m. 238°, picrolonate
 m. 220°; Mel deriv. m. 231°). *o*-Methyltropyl chloride (II) yields with tropine *o*-
methylatropine, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p 102-4° (picrate m. 203°; Mel deriv. m. 241°). In
 methylaminoethanol and I give *dimethylaminoethyl o-methylmandelate*, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p
 120-2° (Mel deriv. m. 250°; picrate of Mel deriv. m. 165°). II with dimethylamino
 ethanol yields similarly *dimethylaminoethyl o-methyltropate*, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p 121-6°
 (Mel deriv. m. 256°; picrate of Mel deriv. m. 160-2°). I forms with γ -N-piperidyl
 propanol the corresponding *o-methylmandelate*, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p 100-2° (Mel deriv. m.
 140°), while II gives analogously the *o-methyltropate*, $\text{C}_{11}\text{H}_{17}\text{O}_4\text{N}$, b_p 108-70° (Mel
 deriv. m. 137°). J. WIERTELAK

ASAC S.E.A. METALLOGICAL LITERATURE CLASSIFICATION

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101 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

atives; *p*-nitroaniline yields 2-chloro-*p*-nitroaniline, with an admixture of 2:6-dichloro-*p*-nitroaniline; *o*-nitroaniline yields chiefly 4-chloro-*o*-nitroaniline together with 4:6-dichloro-*o*-nitroaniline, *m*-nitroaniline gives a mixture of 4-chloro-*m*-nitroaniline, 4:6-dichloro-*m*-nitroaniline, and 2:4:6-trichloro-*m*-nitroaniline; the last named is the sole product of exhaustive chlorination. *o*-Aminobenzoic acid does not undergo chlorination, whilst the *m*- and *p*-acids yield the same dichloro-derivatives as are obtained using ordinary solvents, together with some trichloroaniline resulting from decarboxylation of the original acid. On the whole, purer products are obtained in greater yield in methyl than in ethyl alcohol. Nitration can be performed in methyl-alcoholic solution only of phenolic substances; phenol gives a mixture of 2- and 4-nitrophenol, anisole yields 2- and 4-nitroanisole, 2- and 4-chlorophenols give respectively a mixture of 2-chloro-4- and -6-nitrophenol and 4-chloro-2-nitrophenol, veratrole yields 4-nitroveratrole, quinol dimethyl ether the 2-nitro-derivative, and *m*-cresol yields 4-nitro-*m*-cresol, together with the 2- and 6-nitro-derivatives. R. TRUSZKOWSKI.

SUBST. 1 FUSING with sodium hypophosphite and potassium iodide to yield bis-5-arsenopyridine-2-carboxylic acid ($\text{OOH}\cdot\text{C}_6\text{H}_4\text{N}\cdot\text{As}$). The mono- and di-sulphides of acid 1 (decomp. 230° and 231°) are prepared by the action of hydrogen sulphide respectively on the oxide and the acid. 2-Dimethylaminopyridine-5-arsinic acid, m. p. above 300° (decomp.), is prepared by the action of arsenic trichloride on 2-dimethylaminopyridine. The corresponding acids, m. p. 255° mono- and di-sulphides, respective m. p. 205–206° and 118–120°, and bis-5-arseno-2-dimethylaminopyridine, $(\text{NMe}_2\cdot\text{C}_6\text{H}_4\text{N}\cdot\text{As})_2$, m. p. 238–290°, are prepared.

R. TRUSZKOWSKI.

R. TRUSZKOWSKI

ASH-51A METALLURGICAL LITERATURE CLASSIFICATION

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PLAVKOVA, O.

Good spirits on block twelve; a short story. p. 7. Television in Poland. p. 8.
Help for agitators. p. XXIX.
(LUDOVY ROZHLAS., Vol. 9, no. 19, Apr. 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2 #8, Library of Congress,
August 1953, Uncl.

PLAVKA, Ivan, inz.

Optimum parameters of nuclear electric power plants with a gas-cooled reactor. Energetika Cz 11 no.2:68-71 F '61.

ZEINIK, Andrej, zast.doc., inž., CSc; RAJCOK, Matus, inž.; PLAVKA, Ivan, Inž.

Influence of ball charge on convection heat transfer. Stroj.
cas 14 no.6:547-556 '63.

1. Strojnícka fakulta Slovenskej vysokej školy technickej,
Bratislava.

PLAVKA, A.

"The victorious February", P. 25., (SECHNIK, Vol. 30, No. 2, 1953,
Praha, Czechoslovakia)

SC: Monthly List of East European Acquisitions, (EMAL), 10, Vol. 4,
No. 6, June 1955, Uncl.

PLAVKA, A.

10th anniversary of the Slovak Uprising. p. 225. KRASY SLOVENSKI. Bratislava. Vol. 31, no. 8, Aug. 1954.

SOURCE: East European Accessions List. (EEAL) Library of Congress. Vol. 5, No. 8, August 1956.

PLAVIUS, J.

Development of voluntary activity in children aged 3-4 $\frac{1}{2}$ years by verbal instruction from adults. Cesk. hyg. 8 no.4: 212-215 My '63.

1. Ustav hygieny Humboldtovy university, Berlin, oddeleni hygieny ditete.
(REFLEX, CONDITIONED) (LEARNING)

ACC NR: AP6024341

SOURCE CODE: GE/0030/66/016/001/0069/0078

AUTHOR: Plavitu, C. N.

ORG: Faculty of Physics, University of Bucharest

TITLE: Some kinetic phenomena in impure ionic semiconductors

SOURCE: Physica status solidi, v. 16, no. 1, 1966, 69-78

TOPIC TAGS: semiconductor research, carrier scattering, semiconductor carrier, ionic crystal

ABSTRACT: An exact evaluation of the integrals entering into the expressions for the kinetic coefficients is made in order to find the regions in which the various scattering mechanisms of carriers are dominant. The scattering of carriers by ionized impurities and acoustic and optical phonons is considered. The analysis showed that scattering of carriers by optical phonons is predominant in impure semiconductors in the high temperature range. In the low temperature range (10^2 -1°K), depending on the type of semiconductor, optical or acoustic phonon scattering mechanisms can be neglected, but two scattering mechanisms occur, usually including the impurity scattering mechanism. It is observed that the phonon drag contribution to some of the kinetic coefficients is only slightly modified when ionized impurity scattering is considered. Orig. art. has: 16 formulas.

SUB CODE: 20/

SUBM DATE: 31Mar66/

ORIG REF: 001/

OTH REF: 002

SOV REF: 002

Card 1/1

PLAVIT, P. Ya.

ROZENTUL, M.A., professor; VASIL'YEV, T.V., kand. med. nauk; SOKOLIN, A.I., kand.med.nauk; RAKHMANOVA, N.V., nauchn.sotr.; PRORVICH, L.V., nauchn.sotr.; ZLATKINA, A.R., nauchn.sotr.; ARNOL'D, V.A., vrach; PETRUSHEV-SKIY, S.I., vrach; ~~PLAVIT, P. Ya.~~, vrach; VELICKHO, E.V., vrach; GLOBUS, R.E., vrach; GOL'DENBERG, M.M., vrach; TUNGUSKOVA, A.I., vrach

Results of treating syphilis according to the 1949-1951 programs. Vest. ven. i derm. no.1:22-25 Ja-F '55. (MLRA 8:4)

1. Bol'nitsa im. Korolenko (for Arnol'd, Petrushevskiy) 2. 1-y i 2-y kozhno-venerologicheskiye dispansery (for Plavit, Velichko, Globus, Gol'denberg, Tunguskova) 3. Iz otdela sifilidologii (zaveduyushchiy professor M.A.Rozentul) TSentral'nogo kozhno-venerologicheskogo instituta (direktor - kandidat meditsinskikh nauk N.M.Turanov) Ministerstva zdravookhraneniya SSSR.

(SYPHILIS, therapy
in Russia, pattern of ther.)

PLAVIT, P.Ya.

SMELOV, N.S.; YEGOROV, G.I.; KOKOLIN, A.I.; KSANFOPULO, P.I.; RAKHMANOVA, N.V.;
KRYLOVA, Ye.Ye.; RYKOVA, L.K.; PER, M.I.; PETRUSHEVSKIY, S.I.; PUSTOVAYA,
A.I.; TUNGSKOVA, A.I.; VELICHKO, Ye.V.; PLAVIT, P.Ya.; GOL'DENBERG, M.M.

Evaluation of results of the treatment of early syphilis according
to 1949 scheme. Vest. vener., Moskva No.1:29-33 Jan-Feb 52. (CIML 21:4)

1. Professor for Smelov and Per. 2. Central Skin-Venereological Institute
(Director--N.M. Turanov) for Smelov, Yegorov, Sokolin, Ksanfopulo,
Rakhmanova, Krylova and Rykov; Hospital imeni Korolenko (Head Physician
Docent V.P. Volkov) for Per, Petrushevskiy; First Venereological Dis-
pensary (Head Physician--K.A. Vinogradova) for Pustovaya and Tunguskova);
Second Venereological Dispensary (Head Physician--V.G. Bronshteyn) for
Velichko, Plavit and Gol'denberg.

PLAVINSKIY, V.A.; VASIL'YEV, Yu.N.

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Tekh.upr.Min.mor.flota 7 no.10:57-70 '62. (MIRA 16:9)

1. Nachal'nik otdela uchebnykh zavedeniy Glavnogo upravleniya sudovogo khozyaystva i sudoremontnykh zavodov (for Plavinskiy).
2. Starshiy inzh. otdela uchebnykh zavedeniy Glavnogo upravleniya sudovogo khozyaystva i sudoremontnykh zavodov (for Vasil'yev).
(Marine gas turbines)

PODSHIVALOV, Boris Dmitriyevich; KOCHUROV, Pavel Nikhaylovich; PLAVINSKIY, Yuriy Eduardovich; MALOZEMOV, N.A., doktor tekhn. nauk, retsenzent; PARAMONOV, A.A., inzh., retsenzent; PAVLUSHKOV, E.D., inzh., red.; KISELEVA, N.P., inzh., red.; KHITROV, P.A., tekhn. red.

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(MIRA 14:12)

(Diesel locomotives--Repairs) (Railroads--Repair shops)

PLAVINSKIY, V.I.

BARAT, I.Ye, kandidat tekhnicheskikh nauk; PLAVINSKIY, V.I., kandidat tekhnicheskikh nauk; GLADKIY, V.F., inzhener, retsenzent; OSTOL'SKIY, Vs.I., kandidat tekhnicheskikh nauk, redaktor; TIKHONOV, A.Ya. tekhnicheskii redaktor

[Cable cranes] Kabel'nye krany. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 347 p. (MLRA 7:10)
(Cranes, derricks, etc.)

PLAVINSKIY, V. I.

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Kabel' nye Krany (Cable cranes, by) I. Ye. Karat i V. I. Plavinskiy. Moskva, Mashin, 1954.

347 p. illus., diags., tables.

"Ispol'zovannaya literatura": p. 344- (345).

PLAVINSKIY, V.I., kand.tekhn.nauk

Technological development of the hoisting and conveying machinery
industry. [Trudy] MVTU no.74:3-8 '58. (MIRA 11:10)
(Hoisting machinery) (Conveying machinery)

MAZEL', Zinoviy Yevgen'yevich, kand.tekhn.nauk; USKOV, Anatoliy Pavlovich, inzh.; YAKOBSON, Andrey Genrikhovich, inzh.; PLAVINSKIY, V.I., kand.tekhn.nauk, nauchnyy red.; PETROV, G.D., inzh., nauchnyy red.; AKULOV, D.A., red.; SOKOL'SKIY, I.F., tekhn.red.

[Cableways on construction sites of the Stalingrad Hydroelectric Power Station] Kanatnye dorogi na stroitel'stve Stalingradskoi GES. Moskva, Gidroproekt, 1959. 72 p. (MIRA 13:6)
(Stalingrad Hydroelectric Power Station) (Cableways)

KORNEYEV, Grigoriy Koz'mich, kand. tekhn. nauk; PLAVINSKIY, V.I., kand. tekhn. nauk, nauchnyy red.; GORDEYEV, P.A., red. izd-va; VDOVENKO, Z.I., red. izd-va; GOL'BERG, T.M., tekhn. red.

[Installation of elevators in apartment houses, public buildings and industrial plants] Ustanovka liftov v zhilykh, obshchestvennykh i promyshlennyykh zdaniyakh. Moskva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 110 p.

(Elevators)

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ALEYNER, A.L.; ANAN'YEV, A.A.; KOGAN, I.Ya.; LANG, A.G.;
NIKOLAYEVSKIY, G.M.; PLAVINSKIY, V.I.; SAMOYLOVICH, P.A.;
GORBACHEV, A.I., inzh., ~~retsenzent~~; DUKEL'SKIY, A.I., prof.,
doktor tekhn. nauk, red.; SKOMOROVSKIY, R.V., kand. tekhn.
nauk, red.; MITARCHUK, G.A., red.izd-va; VASIL'YEVA, V.P.,
red.izd-va; SPERANSKAYA, O.V., tekhn. red.

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(MIRA 16:8)

(Cranes, derricks, etc.)

MEKLER, Abram Grigor'evich, kadm. inzhn. nauk; FLAVINSKY, V.I.,
red.

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systems] Avtomatizatsiya upravleniya pod'emno-transportnymi
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(NIRA 1717)

FRANTSUZOV, Yakov Leonovich; BELYAYEV, Leonid Mikheylovich;
PLAVINSKIY, V.I., kand. tekhn. nauk, retsenzent;
VOYTSEKHOVSKIY, R.I., inzh., red.; GALANOVA, M.S., inzh.,
red. izd-va; UVAROVA, A.F., tekhn. red.

[Assembly and operation of suspended cableways] Montazh i
ekspluatatsiya podvesnykh kanatnykh dorog. Moskva, Mashgiz,
1962. 275 p. (MIRA 15:3)
(Cableways)

IVANOVSKIY, Konstantin Yevgen'yevich; FLAVINSKIY, V.I., kand.
tekhn. nauk, red.

[Loading and unloading devices for conveyor lines; pere-
gruzochnye ustroistva konveiernykh lini. Leningrad, 1964.
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SUKHANOV, Leonid Konstantinovich, Russ. techn. lang; PLYUSIN, V.I., Russ. techn. lang, *etc.*

[Modern aircraft construction] Soviet aircraft transport. Leningrad, 1962. 40 p. (WIA 18.1)

BARAT, I.Ye.; D'YACHKOV, V.K.; MEKLER, A.G.; NIKOLAYEVSKIY, G.M.; OLEYNIK, A.M.; SEGAL', I.S.; SPITSINA, I.O.; PLAVINSKIY, V.I., red.; CHANGLI, I.I., red.; OSIPOVA, L.A., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[Present state of the hoisting and conveying machinery industry] Sovremennoe sostoyanie pod'emno-transportnogo mashinostroeniya. By Kollektiv sovetskikh, chekhoslovatskikh i nemetskikh avtorov. Moskva, Mashgiz; Prague, SNTL; Berlin, VT, 1961. 420 p. (MIRA 14:11)
(Hoisting machinery) (Conveying machinery)

PLAVINSKIY, V.I., kand. tekhn. nauk.

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0 '58. (Cableways) (MIRA 11:11)

PLAVINSKIY, V.A.; VASIL'YEV, Yu.N.

Shipbuilding industry in Japan. Biul.tekh.-ekon.inform. no.2:93-~~94~~
(MIRA 11:4)

(Japan--Shipbuilding)

PLAVINSKIY, V.A.; VASIL'YEV, Yu.N.

Manufacture of marine diesel engines and gas turbines in Japan.
Biul.tekh.-ekon.inform. no.7:93-96 '58. (MIRA 11:9)
(Japan--Gas turbines) (Japan--Marine diesel engines)

PLAVINSKIY, F.I.

AKOP'YAN, A.A., starshiy prepodavatel'; KRUGLOV, M.S., starshiy prepodavatel';
PLAVINSKIY, F.I., starshiy prepodavatel'.

Basic and determining problems in manufacturing instruments.
Priborostroenie no.10:19-20 O '57. (MIRA 10:11)

1. LIAP

(Instrument industry) (Automatic control)

Water Supply of Moldavia

99-1-4/10

in conjunction with two experimental farms.
There are 7 photographs.

AVAILABLE: Library of Congress

Card 2/2

Plavinskiy, A. I.

99-1-4/10

AUTHORS: Bikus, D. I., Lisitsyn, ~~Yev. A.~~ Plavinskiy, A. I., and Pozdenko, N. I., Engineers

TITLE: Water Supply of Moldavia (Vodnoye **khozyaystvo** Moldavii)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1958, # 1, pp 19-25 (USSR)

ABSTRACT: The diversity of soil and climatic conditions prevailing in the Moldavian SSR demand intensive application of irrigation as well as drainage. Excellent results were obtained with irrigation at the Scientific-Research Institute for **Irrigational** Farming. Existing systems were expanded, and several new systems were recently built. At the end of the sixth Five-Year Plan a total of 34,000 ha are to be put under irrigation. According to state plans, 250,000 ha will be irrigated by 1970, at an expenditure of 1,785,000,000 rubles.

The diking and draining of the **Dnestr** lowlands and the island of Turunchuk, comprising a total of 27,000 ha, was started in 1951. In July 1957, the Moldavian Scientific-Research Institute for Irrigation Farming was established

Card 1/2

02-20711-1818/175
BIKUS, D.I. inzh.; LISITSYN, Ye.A.; PLAVINSKIY, A.I., inzh.; POZDENKO, N.I.,
inzh.

Water management in Moldavia. Gidr. i mel. 10 no.1:20-25 Ja '58.
(Moldavia--Irrigation) (MIRA 11:2)

PLAVINSKIY, A.A.

Attachment for anesthetizing equipment for active inspiration and expiration. Zdrav. Bel. 7 no.3:67 Mr '61. (MIRA 14:3)

1. Iz khirurgicheskoy kliniki Belorusskogo instituta usovershenstvovaniya vrachey (zaveduyushchiy kafedroy - prof. A.M.Boldin).
(ANESTHESIA--EQUIPMENT AND SUPPLIES)

BOLDIN, A.M., professor; PLAVINSKIY, A.A.

Anesthesia in the stage of analgesia. Zdrav. Bel. 7 no. 4:59-61
Ap '61. (MIRA 14:4)

1. Iz khirurgicheskoy kliniki Belorusskogo instituta usovershenstvovaniya vrachey (zaveduyushchiy kafedroy - professor A.M. Boldin).
(ANESTHESIA)

NISENBAUM, L.I.; PLAVINSKIY, A.A.

Intubation anesthesia in urological practice. Zdrav. Bel.
8 no.4:48-50 Ap '62. (MIRA 15:6)

1. Iz urologicheskoy kliniki (zaveduyushchiy - prof. A.I. Mikhel'son) Belorusskogo instituta usovershenstvovaniya vrachey na baze Minskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach M.I. Kotovich).

(UROLOGY)
(INTRATRACHEAL ANESTHESIA)

PLAVINSKIY, A.A.

Biliary peritonitis. Zdrav. Bel. 9 no.8:84-85 Ag'63
(MIRA 17:3)

1. Iz khirurgicheskoy kliniki Belorusskogo gosudarstvennogo
instituta usovershenstvovaniya vrachey (zav. kafedroy -
prof. A.M. Boldin)

PLAVINSKIY, A.A.

Psychic factor in the administration of nitrous oxide anesthesia.
Zdrav. Bel. 7 no.12:44 D '61. (MIRA 15:2)

1. Iz khirurgicheskoy kliniki (zaveduyushchiy kafedroy - prof. A.M. Boldin) Belorusskogo instituta usovershenstvovaniya vrachey.
(NITROUS OXIDE)

BOLDIN, A.M., prof.; PLAVINSKIY, A.A.

Intubation technic in anesthesia. Zdrav.Bel. 8 no.2:57-58 F '62.
(MIRA 15:11)

1. Kafedra khirurgii Belorusskogo gosudarstvennogo instituta
usovershenstvovaniya vrachey (zav. kafedroy - prof. A.M.Boldin).
(INTRATRACHEAL ANESTHESIA)

DENISOVSKIY, G.K.; KLIONSKIY, S.I.; PLAVINSKIY, A.A.

Traumatic rupture of the spleen in combination with severe brain injury. Zdrav. Bel. 7 no.6:62 Je '61. (MIRA 15:2)

1. Iz khirurgicheskoy kliniki Belorusskogo usovershenstvovaniya vrachey (zaveduyushchiy kafedroy - prof. A.M.Boldin).
(SPLEEN__RUPTURE) (BRAIN__WOUNDS AND INJURIES)

PLAVINSKIY, A.A.

Inclusion of an automatic respiratory apparatus for work in a
semiclosed anesthetic system. Zdrav.Bel. 9 no.2:57-58 F:63.
(MIRA 16:7)

1. Iz khirurgicheskoy kliniki Belorusskogo gosudarstvennogo
instituta dlya usovershenstvovaniya vrachey (zaveduyushchiy
kafedroy prof. A.M.Boldin)
(ANESTHESIOLOGY--EQUIPMENT AND SUPPLIES)

PLAVINSKIY, A.A.

Pathology of Meckel's diverticulum as a cause of "acute abdomen."
Zdrav.Belor. 4 no.3:61 Mr '58. (MIRA 13:6)

1. Iz khirurgicheskoy kliniki Belorusskogo instituta usovershenstvovaniya vrachev (zaveduyushchiy kafedroy - professor A.M. Boldin).
(ILEUM--DISEASES) (ABDOMEN--DISEASES)

FLAVINSKIY, A.A.

Free skin transplantation with flaps of varying thickness. Zdrav.
Belor. 5 no.1:55 Ja '60. (MIRA 13:5)

1. Iz kafedry khirurgii Belorusskogo instituta usovershenstvovaniya
vrachey (zaveduyushchiy kafedroy - professor A.M. Boldin).
(SKIN GRAFTING)

PLAVINSKIY, A., inzh.; KHRONOPULO, G., inzh.

Mechanized crib-type storage barn for potatoes. Sel'. stroi.
16 no.1:insert:7-8 Ja '62. (MIRA 16:1)
(Potatoes—Storage)

KUDRYAVTSEV, A. V., PLAVINSKAYA, V. I. (Leningrad NIVI)
Vet Bact Lab, Main Admin Animal Husbandry, MinState Farms USSR
Agglutination

Comparative evaluation of the classical method of agglutination reaction and of the accelerated colloidal antigen method. Veterinariia 29 no. 3, '52.

Authors compared the results given by the classic method of reaction of agglutination with those of the accelerated method of colloidal antigen. The reaction was modified. They took antigen, used in the classic method, and added to it 12 percent chemically pure salt and 15 percent chemically pure glycerine.
U-4863, 19 Oct 1953

9. Monthly List of Russian Accessions, Library of Congress, July 1958. Unclassified.
2

DANILIN, V.A., dots. PLAVINSKAYA, N.Ya., kand.med.nauk

Clinical picture of acute leukoses. Sov.med. 22 no.5:49-54 My '58

1. Iz kliniki gosnital'noy terapii (zav. - prof. A.I. Germanov) i kliniki propedevticheskoy terapii (zav. - prof. S.V. Shestakov) Kuybyshevskogo meditsinskogo instituta.
(LEUKEMIA, manifest.
clin. manifest. (Rus))

GENES, S.G.; PLAVSKAYA, A.A.; YURCHENKO, M.Z. (Khar'kov)

Potentiating action of the new sugar-reducing, perorally
effective preparation, chlorisopropamide. Probl.endok.i gorm.
no.4:3-10 '62. (MIRA 15:11)

1. Iz otdela patofiziologii (zav. - zasluzhennyy deyatel' nauki
prof. S.G. Genes) Ukrainskogo instituta eksperimental'noy endok-
rinologii (dir. - kand.med.nauk S.V. Maksimov).
(PROPRIONAMIDE)

BARAT, I.Ye., kand. tekhn. nauk; PLAVINSKIY, V.I., kand. tekhn.
nauk; Prinsipal uchastiye MELEN, A.G., kand. tekhn.
nauk; HOMBERG, A.A., prof., respondent

[Cable cranes] Kabel'nye krany. Moskva, Mashinostroyeniye,
1964. 340 p. (MIRA 10:1)

PLAVINAS, B.

About visible light and audible sound. Nauka i zhyttia 13 no.10:
36-39 N '63. (MIRA 16:12)

S/020/62/143/004/011/027
B104/B102

The formation of a latent ...

barrier may be overcome by a tunnel effect or a thermal transfer of an electron over the barrier. At the beginning of a discharge the barrier dominates; at the end of it, when the barrier has become low, the volume resistivity and recombination processes dominate. On these assumptions the discharge in zinc-oxide layers is studied. The authors thank V. M. Fridkin for discussions. There are 3 figures.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk SSSR (Institute of Physics and Mathematics of the Academy of Sciences USSR)
Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus
(Scientific Research Institute of Electrography, Vil'nyus)

PRESENTED: December 11, 1961, by A. V. Shubnikov, Academician

SUBMITTED: December 1, 1961

Card 2/2

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S/020/62/143/004/011/027
B104/B102

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AUTHORS: Levinson, I. B., and Plavina, I. Z.

TITLE: The formation of a latent electrophotographic image in zinc oxide layers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 822 - 824

TEXT: A discharge mechanism of the surface charges is suggested which is related to the surface potential barriers. The charges on the surface are in potential wells and separated from the volume by a Debye barrier. The height V of this barrier is determined from the surface charge Q , the barrier width from the Debye screening length $d = (\epsilon kT/e^2 n)^{1/2}$, where n is the volume concentration of free electrons. The surface discharge is described by $dQ/dt = -wQ$, where w is the escape probability of an electron from the potential well. If no barrier exists and the charge is due to volume effects only $w = 1/\tau$, where $\tau = \epsilon/\sigma$ is the Maxwell relaxation time. $\sigma = e\mu n$ is the volume conductivity, μ the carrier mobility. n as a function of time is determined from relaxation processes. The "resistance" of a

Card 1/2

MESHKUOTENE, E.A.; PLAVINA, I.Z.

Sensitometric characteristics of the latent electrophotographic image on zinc oxide layers. Zhur.nauch.i prikl.fiz. i khim. / no.5:380-381 S-0 '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus. (Lithuania--Xerography) (Photographic sensitometry)

LEVINA, F.A.; PLAVINA, I.Z.

Spectral characteristics of sensitized electrophotographic layers.
Zhur.nauch.i prikl.fot.i kin. 7 no.4:262-267 J1-Ag '82.
(MIRA 15:8)

1. Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus.
(Xerography)

BLAVINA, I.A., ²⁷Can't Say's Mach Def -- (sic) "Electrified" 1955
detected after the contact of two bodies." Len, 1955, 13
pp (Len order of Lenin State Univ in A.A. Zhurav)
(KL, 50-58, 120)

PLAVINA, I.Z.

Conformity to the reciprocity law of zinc oxide electro-
photographic layers. Zhur.nauch.i prikl.fot.i kin. 8 no.1:
57-58 Ja-Feb '63. (MIRA 16:2)

1. Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus.
(Zerography)

ZUNDE, B.Ja.; PLAVIN, I.K.; TRINKLER, M.F.; ZVERTE, A.K.

Kinetics of internal luminescent centers of alkali halide crystals
activated with thallium. Chekhosl fiz zhurnal 13 no.3:222-225 '63.

1. Institut fiziki Akademii nauk Latvyskoy SSR.

TSAREV, V., inzh. (Astrakhan'); NIKOL'SKIY, V.; POPOV, Yu., starshiy master; ARKHIPOV, I., malyar (g. Cheboksary); PINDYURIN, F. (g. Biysk); PLAVIN, B.M., mekhanik; LOGINOV, B.

Advertising board. Izobr.i rats. no. 32-33 F '62. (MIRA 15 2)

1. Rostovskiy-na-Donu kotel'no mekhanicheskiy zavod (for Popov).
(Technological innovations)

PLAVIN, B.M.

Logarithmic nonsquare. Vych. i zap. izd. v 2 t. 1. 1974. (1974)
no. 3:80-84. '64.

1. Vil'nyusskiy filial instituta hitpromroyeta.

GEL'FOND, M., inzh.; PLAVIN, B., inzh.

Vibrating forms for prefabricating stairs. Stroitel' no.5:18
My '60. (MIRA 13:9)
(Stair building) (Vibrators)

SHILYAYEV, M.; PLAVIN, B., inzh.; CHERTKOV, N.; CHARKIN, P.; BURNAZYAN, G.;
MIKHAYLIK, P.; GONCHAROV, A.; CHAPLIN, I., inzhener-tekhnolgo;
KROPOTIN, N., starshiy tekhnolog

Around the country. Izobr.i rats. no.6:32-33 Ja '59.
(MIRA 12:9)

1. Predsedatel' soveta Vsesoyuznoy organizatsii izobretateley i ratsionalizatorov stankostroitel'nogo proizvodstva, g.Izhevsk (for Shilyayev).
 2. TSentral'noye byuro tekhnicheskoy informatsii g.Vil'nyus (for Plavin).
 3. Sekretar' soveta Vsesoyuznoy organizatsii izobretateley i ratsionalizatorov Adzharskoy ASSR, g.Batumi (for Chertkov).
 4. Chlen Yaroslavskogo oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Charkin).
 5. Sekretar' Armyanskogo respublikanskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, g. Yerevan (for Burnazyan).
 6. Chlen prezidiuma L'vovskogo oblastnogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov (for Mikhaylik).
 7. Predsedatel' zavodskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov, g. Leningrad (for Goncharov).
 8. Novo-Kramatorskiy mashinostroitel'nyy zavod, g.Kramatorsk (for Chaplin).
 9. Izhevskiy mashinostroitel'nyy zavod, g.Izhevsk (for Kropotin).
- (Efficiency, Industrial)

PLAVIN, B.; AUSKER, D.

Combined closet and drying room. Stroitel' 9 no.2:27-28 F '63.
(MIRA 16:2)

(Drying apparatus)

PLAVIL'SHCHIKOV, N. N.

DECEASED

1963/3

BIBLIOGRAPHY

(C1962)

PLAVIL'SHCHIKOV, N.N. [deceased]; ANUFRIYEV, L.A.

A new species of the genus *Phytolacca* (Coleoptera, Tenebrionidae).
Zool. zhur. 43 no.10:1545-1546 1962. (Moscow)

1. Zoologicheskii muzey Moskovskogo gosudarstvennogo
universiteta i Primorskaya plodovo-yagodnaya stantsiya.

T 28101.66

ACC NR: AT6013789

the process of the anodizing of Ti the oxides form on the hydride layer of Ti. The thickness of the hydride layer then is hardly affected. In the course of anodic oxidation, diffusion of Ti ions takes place from the metal across the hydride layer. The relative corrosion resistance of Ti in the solutions of acids in which corrosion occurs with hydrogen depolarization is due to hydride-oxide passivity. Orig. art. has: 11 figures, 1 table

SUB CODE: 07, 11 SUBM DATE: 19Jul65/ ORIG REF: 013 OTH REF: 008

Card 4/4 IC

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ACC NR: AT6013789

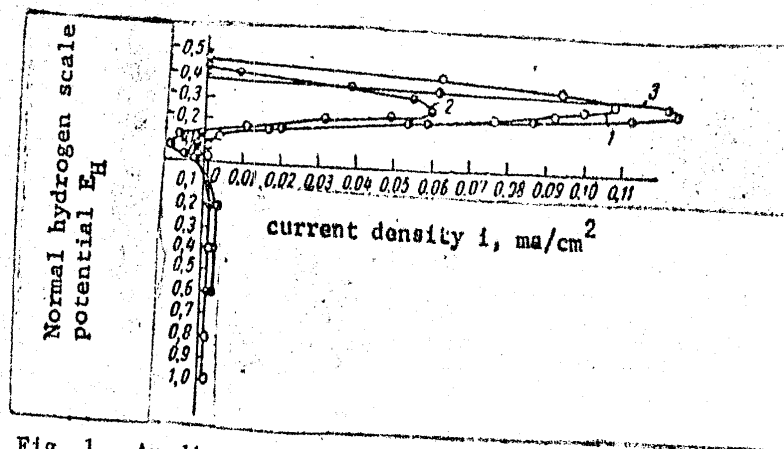


Fig. 1. Anodic potentiostatic curves plotted for Ti in 3% H_2SO_4 solution:

1 - titanium with a hydride layer produced after 1 hr of cathodic polarization at $i = 50 \text{ ma/cm}^2$ and $\delta \approx 2 \mu$; 3 - titanium after 18 hr of cathodic polarization at $i = 5 \text{ ma/cm}^2$, $\delta \approx 10 \mu$

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ACC NR: AT6013789

possibility of the existence of both the hydride and the oxides of Ti at the surface of Ti over a broad range of potentials, the more so as it is known that not only the oxides but also the hydride of Ti usually inhibit the corrosion rate of Ti in acids. It has also been observed that prior cathodic polarization inhibits in certain cases the anodic dissolution of Ti. In this connection the authors investigate the effect of the hydride layer, forming on Ti during its corrosion or cathodic polarization, on the electrochemical dissolution and oxidation of Ti. To this end, the anodic potentiostatic curves were plotted for Ti with various duration of prior cathodic polarization of its surface. On comparing curves 1 and 2 in Fig. 1 it can be seen that the hydride layer produced during 1 hr of cathodic polarization sharply inhibits the process of the anodic dissolution of Ti: the limiting passivation current is reduced nearly in half. If this prior cathodic polarization is prolonged for 18 hr, however, an opposite effect is produced: the maximum anodic current increases (curve 3). This is due to the loosening and augmentation of true surface area of Ti owing to the absorption of hydrogen. In the region of active anodic dissolution the surfaces of Ti (whether pure or with hydride layer) get oxidized. The degree of this oxidation increases as the potential changes from its normal value to a positive (anodic) value. Studies of the corrosion resistance of Ti oxides show that the oxides forming in the presence of a potential of +1.0 v in a 3N H₂SO₄ solution, and particularly in diluted 0.5N or 0.1N H₂SO₄ solutions, are relatively resistant in the region of active anodic dissolution and in conditions of cathodic polarization. In

Card 2/4

L 28101-66 EMT(m)/EMP(t)/ETI IJP(c) JD/WB/GD
 ACC NR: AT6013789 (N) SOURCE CODE: UR/0000/65/000/000/0080/0102

AUTHOR: Tomashov, N. D. (Doctor of chemical sciences, Professor); Modestova, V. N.;
 Plavich, L. A.; Averbukh, A. B.
 ORG: none

TITLE: Study of the electrochemical behavior of titanium ²¹

SOURCE: Korroziya metallov i splavov (Corrosion of metals and alloys), no. 2
 Moscow, Izd-vo Metallurgiya, 1965, 80-102

TOPIC TAGS: electrochemistry, corrosion, titanium, electric potential, anodization,
 sulfuric acid, titanium oxide

ABSTRACT: Ti is an electronegative metal. The standard electrode potential of its dissolution in the form of divalent ions Ti^{2+} is -1.63 v, and in the form of trivalent ions Ti^{3+} , -1.21 v. Nevertheless, the intense corrosion of Ti, as well as its anodic dissolution in solutions of non-oxidizing acids, occurs in the presence of potentials that are approx. 1 v more positive than the above values, i.e. at -0.45 and -0.25 v. This indicates that the dissolution of Ti during corrosion and anodic depolarization occurs with an exceptionally high anodic inhibition. In studies of the electrochemical behavior of Ti allowance must be made for the thermodynamic

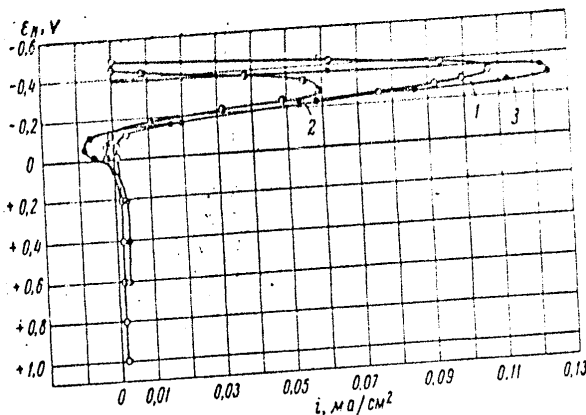
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L 30367-66

ACC NR: AT6012381

Fig. 1. Anodic potentiostatic curves plotted in 3-N solution of H_2SO_4 :

1 - titanium; 2 - titanium with cathode polarization for 1 hr with a current of 5 mA/cm^2 ; 3 - same, after 18 hrs of cathode polarization.



In the range of active anodic dissolution, the surface of the titanium with and without a hydride layer was oxidized. In anodization of titanium with a hydride layer, an oxide is formed on the hydride layer. In anode oxidation, the titanium ions are chiefly diffused from the metal through the hydride layer. The relative stability of titanium in solutions of acids where corrosion occurs with hydrogen depolarization is due to hydride-oxide passivity. Orig. art. has: 1 table and 5 figures.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 010/ OTH REF: 006

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L 30367-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AT6012381

SOURCE CODE: UR/0000/65/000/000/0130/0137

AUTHORS: Tomashov, N. D.; Modestova, V. N.; Plavich, L. A.; Averbukh, A. M.

ORG: none

TITLE: The effect of hydrogen absorption on the electrochemical behavior of titanium

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow. Izd-vo Nauka, 1965, 130-137

TOPIC TAGS: titanium, cathode polarization, anodic oxidation, sulfuric acid, corrosion resistance, electrode potential, hydrochloric acid / VTl titanium

ABSTRACT: The effect of preliminary cathode polarization on the subsequent anodic dissolution and anodic oxidation of titanium is studied. The specimens were prepared from VTl titanium with the impurities (wt %): 0.03 Fe, 0.03 Si, 0.05 C, 0.06 Cl, 0.03 N, and 0.1 O. The specimens were annealed for 2 hrs at 800C. Potentiostatic curves were plotted for titanium and titanium with a hydride layer in a 3-N solution of H₂SO₄ (see Fig. 1). Anodic dissolution of titanium with a hydride layer was found to occur with greater retardation than that of titanium without a layer.

Card 1/2

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Selecting minefield development methods for mining single, thin, and average thickness seams in Karaganda Basin. Ugol' 33 no.1:13-18 Ja '58. (MIRA 11:2)

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(ECHINOCOCCOSIS,
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(KIDNEYS, diseases,
echinococcosis, with tuberc.)
(TUBERCULOSIS, RENAL, complications,
echinococcosis)

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PUTNIK, Milan; PLAVEC, Vladimir; SOLDATOVIC, Svetislav

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u Novom Sadu, sef: dr. Vladimir Plavec. (Rad je Urednistvo primilo
10-VII-1953 god.)

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